of the monkey it would appear that there are three fairly well differentiated areas, each with its distinctive grouping of cell elements. The region occupied by the first type comprises the frontal convolutions and is bounded behind by the precentral convolutions. Its cell distribution resembles in some particulars that of the motor region type of man consisting of five layers:

1. The layer of tangential fibres with irregular cell groupings.
2. Layer of the small polymorphous cells.
3. Layer of small pyramidal cells, with small oval and round cells between, most of the cells being found in the para pygnomorphic condition.
4. Layer of large and giant pyramidal cells which are usually in the pygnomorph condition.
5. Layer of polymorphous or spindle cells.

The area of the second type occupies the region just posterior to that of the first type, and constitutes the greater part of the cortex, leaving but a small area, homologous with the general occipital region for the third type.

This area is characterized by a seven-layered arrangement of cells. The first and second layers are similar to those found in the area of the first type. The third layer is also, in the main, similar; added to it are a number of cells for which B. Lewis has introduced the name "globose cells."

The fourth layer is the same as the outer half of the corresponding layer for the first type, while the inner half is made up of new type cells, constituting the fifth layer. These cells are the "granule cells" —corresponding to the 4th layer of Hammarberg's sensory type. The sixth layer contains pygnomorph pyramidal cells, similar to those found in the inner parts of the fourth layer of the first type, and the seventh layer is composed of the polymorphous cells.

The area of the third layer is the smallest, yet, perhaps, the most characteristic. It occupies the general region of the occipital lobes, and its cells appear to be arranged in eight more or less regular layers. These, briefly stated, are:

1st, 2d, and 3d layers as in the first type.
4th layer, reproduction cells, in "granule" cells.
5th layer, projection cells, apygnomorph pyramid cells.
6th layer, "granule" cells.
7th layer, projection cells.
8th layer, polymorphous cells.

The paper is well illustrated; and the character, and sizes, and variations of the various cells carefully elucidated. JELLIFFE.

PHYSIOLOGY.

142. A STUDY OF THE TEMPERATURE SENSE. J. F. Crawford (Psychological Rev., 5, 1898, p. 63).

In a preliminary report of experiments upon six subjects, the author comes to a conclusion the opposite of Goldscheider's, as he finds continuous sensitive regions, and within a fairly sensitive region he could not find a spot that was non-sensitive. These sensitive regions are of various size and indefinite limits, and within them are often found smaller regions of greater intensity, but never in the form of groups of spots.

Three of his subjects gave thirty sittings, and three gave eight sittings. He used two pairs of brass cylinders, one pair being ½ mm. across at the ends, and the other pair being considerably less. Sharper points produce the sensation of pricking or burning. The cylinders were partly covered with cork and immersed in hot and cold water of known temperatures.

Slight changes of temperature are insignificant, especially with cold, a difference of 5 deg., making no practical difference in the reactions. From 0 deg. up to 23 deg. or 24 deg. there are cold reactions, intense below 6 deg. or 8 deg., and growing less marked up to 15 deg. At 22 deg. hot reactions begin to come in but are not marked until 40 deg. or 42 deg. are reached. At between 49 deg. and 54 deg. the heat passes over into pain which arises from all points of the skin alike. The range of cold reactions is much greater than that of hot.

The relation between "hot" and "cold" seems to be one of mutual independence. They are neither coincident nor complementary, but seem to overlap without law. The personal factor was prominent.

CHRISTISON.

143. LA TOSSICITO DEL SUDORE NEGLI EPILETTICI (The Toxicity of the Sweat of Epileptics). Cabitto (Revista Sperimentale di Freniatria, 23, 1897, p. 36).

Dr. Clemente Cabitto experimented with the perspiration of epileptics upon rabbits and came to the following conclusions:

I. The sweat of epileptics in the prodromal period of the attack injected into the circulation of rabbits provoked a decisive toxic action and a very strong convulsive attack.

II. The toxic and convulsive power of the sweat increases as the attack advances, and decreases in the period after the paroxysm relatively with the duration of the post epileptic state.

III. The attacks preceding the day of experimentation do not exert any influence over the toxicity of the sweat.

IV. The action of the sweat of epileptics some time before the attack does not differ from that of a healthy subject. KRAUSS.

144. LE SENS DE L'ORIENTATION. (The Sense of Position). P. Bonnier (Revue Scientifique, 1898, p. 108).

In a short and interesting article the author discusses the general problem of the sense of position. To the ampullæ of the semi-circular canals he attaches much importance, in that there is a memory sense connected with the displacement of their contents. VOGEL.

145. LA SENSIBILITÉ MUSCULAIRE DES YEUX (Muscular Sensibility of the Eyes). B. Bourdon (Revue Philosophique, 22, 1897, No. 10).

In the estimation of space this muscular sense is of value, and the results of previous investigations having given such contradictory results, the author was led to perform some experiments.

The results of these experiments would be contrary to the hypothesis that our conception of space is due to muscular sensibility of the oculomotorius. The movements of the eyes are, therefore, not controlled by muscular sensibility, but by the retinal impressions. Muscular sensibility of the oculomotorius could be markedly diminished, yet visual space perception suffer no loss. JELLIFFE.

PATHOLOGY.

146. DEGENERATIONEN DER VORDERHORNZELLEN DES RÜCKENMARKS BEI DEMENTIA PARALYTICA (Degenerations of the Cells of the Anterior Horns of the Spinal Cord in Dementia Paralytica). H. Berger (Monatsschrift f. Psychiatrie u. Neurologie, 3, 1898, p. 1).

Berger has examined the cells of the anterior horns of the cord in twelve cases of dementia paralytica. He has found pigmentary degeneration, karyolysis, destruction of the dendrites, tumefaction of the cells, chromatolysis, vacuolation, changes in the nucleus and